

Patent claims

- 5 1. A circuit for operating high-pressure discharge lamps, the circuit having a voltage converter for the purpose of supplying energy to a load circuit which is provided with connections for a high-pressure discharge lamp (La) and for the secondary winding (L1b) of a
10 starting transformer (T1) of a pulse starting device which serves the purpose of starting the gas discharge in the high-pressure discharge lamp (La),
characterized in that at least one capacitor (C1), which is connected in series with the secondary winding (L1b) of
15 the starting transformer (T1) when the pulse starting device is connected, is arranged in the load circuit, the capacitance of the capacitor (C1) being dimensioned such that it essentially represents a short circuit for the starting pulses generated by the pulse starting device
20 and, once the gas discharge in the high-pressure discharge lamp (La) has been started, brings about at least partial compensation of the inductance of the starting transformer (T1) if the lamp current is flowing through the secondary winding (L1b).
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2. The circuit as claimed in claim 1, characterized in that the resonant frequency of the series resonant circuit formed from the capacitor (C1) and the secondary winding (L1b) is greater than 500 kilohertz.
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3. The circuit as claimed in claim 1, characterized in that the inductance of the secondary winding (L1b) is less than 500 μ H.

4. The circuit as claimed in claim 1, characterized in that the switching frequency of the voltage converter is greater than 500 kilohertz during steady-state lamp
5 operation.

5. The circuit as claimed in claim 1, characterized in that the capacitor used for the purpose of compensating the secondary winding is charged, before the gas discharge
10 in the lamp is started, to a DC voltage which, together with the starting pulse or the starting pulses of the starting transformer (T1), brings about starting of the gas discharge in the lamp.

15 6. A circuit for operating high-pressure discharge lamps, the circuit having a voltage converter for the purpose of supplying energy to a load circuit which is provided with connections for a high-pressure discharge lamp (La) and for the secondary winding (L1b) of a
20 starting transformer (T1) of a pulse starting device which serves the purpose of starting the gas discharge in the high-pressure discharge lamp (La),
characterized in that at least one capacitor (C1), which is connected in series with the secondary winding (L1b) of
25 the starting transformer (T1) when the pulse starting device is connected, is arranged in the load circuit, the capacitance of the capacitor (C51) being dimensioned such that it essentially represents a short circuit for the starting pulses generated by the pulse starting device and
30 the capacitor (C51) is charged, before the gas discharge in the lamp is started, to a DC voltage which, together with the starting pulse or the starting pulses of the starting transformer (T1), brings about starting of the gas discharge in the lamp.

7. The circuit as claimed in claim 5 or 6, characterized in that the capacitor (C1; C51) is charged, before the gas discharge in the lamp (La) is started, to a DC voltage
5 greater than 300 volts.

8. A pulse starting device for a high-pressure discharge lamp having a starting transformer (T1) for the purpose of producing starting pulses, characterized in that the
10 starting device has at least one capacitor (C1), which is connected in series with the secondary winding (L1b) of the starting transformer (T1) and whose capacitance is dimensioned such that it essentially represents a short circuit for the starting pulses generated by the pulse
15 starting device and, once the gas discharge in the high-pressure discharge lamp (La) has been started, brings about at least partial compensation of the inductance of the starting transformer (T1) if the lamp current is flowing through the secondary winding (L1b).

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9. The pulse starting device as claimed in claim 8, characterized in that the resonant frequency of the series resonant circuit formed from the capacitor (C1) and the secondary winding (L1b) is greater than 500 kilohertz.

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10. The pulse starting device as claimed in claim 8, characterized in that the inductance of the secondary winding (L1b) is less than 500 μ H.

30 11. The pulse starting device as claimed in claim 8, characterized in that the frequency of the lamp current flowing through the secondary winding (L1b) is greater than 500 kilohertz.

12. The pulse starting device as claimed in claim 8, characterized in that the capacitor used for the purpose of compensating the secondary winding is charged, before
5 the gas discharge in the lamp is started, to a DC voltage which, together with the starting pulse or the starting pulses of the starting transformer (T1), brings about starting of the gas discharge in the lamp.
- 10 13. A pulse starting device for a high-pressure discharge lamp having a starting transformer (T1) for the purpose of producing starting pulses, characterized in that the starting device has at least one capacitor (C51), which is connected in series with the secondary winding (L1b) of
15 the starting transformer (T1), and whose capacitance is dimensioned such that it essentially represents a short circuit for the starting pulses generated by the pulse starting device and the capacitor (C51) is charged, before the gas discharge in the lamp is started, to a DC voltage
20 which, together with the starting pulse or the starting pulses of the starting transformer (T1), brings about starting of the gas discharge in the lamp (La).
14. The pulse starting device as claimed in claim 12 or
25 13, characterized in that the capacitor (C1; C51) is charged, before the gas discharge in the lamp (La) is started, to a DC voltage greater than 300 volts.
15. A high-pressure discharge lamp having the pulse
30 starting device arranged in the lamp base as claimed in one or more of claims 8 to 14.